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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/080,994	02/20/2002	Akira Tsukihashi		1310

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EXAMINER

BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	Application No. 10/080,994	Applicant(s) TSUKIHASHI ET AL.	
	Examiner Michael V Battaglia	Art Unit 2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Salmonsens et al (hereafter Salmonsens) (US 6,636,468).

In regard to claim 12, Salmonsens discloses a recording/reproducing apparatus (Fig. 2) in which a recording signal is written onto a disk, comprising: a buffer (Fig. 2, element 275) which temporarily stores said recording signal; and a control means (Fig. 2) which controls the recording of the recording signal onto the disk during the recording of the recording signal onto the disk so as to interrupt the recording of the recording signal onto the disk when an amount of said recording signal data in said buffer is not greater than an interruption setting value (Col. 4, lines 1-17), and to resume the recording of the recording signal onto the disk when the amount of said recording signal data in said buffer is not less than a resumption setting value during the recording of the recording signal onto said disk (Col. 4, lines 18-26), wherein said control means reproduces the signal written on said disk before the recording is resumed (Col. 5, lines 5-7); records, based on this reproduced signal, the recording signal after resuming the recording onto the disk in continuation with the recording signal before the interruption (Col. 4, lines 27-44); and detects the

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recording properties of said disk based on the signal reproduced before said recording is resumed (Col. 5, lines 10-11).

In regard to claim 13, Salmonsens discloses that when recording is resumed, said control means sets recording conditions based on said detected recording properties (Col. 5, lines 20-26).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen et al (hereafter Yen) (US 6,643,233).

In regard to claim 3, Salmonsens discloses a method for recording/reproducing comprising: controlling the recording of a recording signal onto a disk so that the recording signal is recorded onto the disk at a constant linear speed (Col. 5, lines 39-44); and interrupting the recording of the recording signal onto the disk (Fig. 4, element 440 and Col. 6, lines 66-67), reproducing the signal writing on the disk before resuming a reproducing/recording operation (Col. 6, line 67-Col. 7, line 1), and detecting the recording properties of the disk based on the reproduced signal (Col. 7, lines 5-12) in order to set the writing laser power (Col. 5, lines 21-22). Salmonsens further discloses that by reevaluating the quality of a reproduced signal at arbitrary times and places, the laser power is appropriately adjusted to produce a better quality read-back signal (Col. 2, lines 58-62).

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Salmonsens does not disclose that the recording properties of the disk are detected in order to set the linear speed.

Yen discloses detecting recording properties of the disk based on the reproduced signal in order to set writing speed and writing laser power to respective levels better suited for the recording properties (Col. 2, lines 2-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the recording properties of the disk based on a reproduced signal in the method and apparatus of Salmonsens in order to set the writing speed of Salmonsens (linear speed) as suggested by Yen and in order to set the writing laser power as suggested by Salmonsens, the motivation being to set the linear speed, in addition to the writing laser power, to levels better suited to the recording conditions at arbitrary times and places. It is noted that interrupting (reevaluating) of the recording of the recording signal onto the disk is at arbitrary times and places includes making the interruption when a recording position is moved to position in which the recording operation can be performed in a constant higher linear speed state. It is further noted that recording speed is changed to the level best suited to the recording properties by the method of Salmonsens in view of Yen. See Response to Arguments below for further explanation.

In regard to claim 14, Salmonsens discloses a recording/reproducing apparatus comprising: a controller (Figs. 2 and 3) for controlling the recording of a recording signal onto a disk so that the recording signal is recorded onto the disk at a constant linear speed (Col. 5, lines 39-44), and the controller including means for interrupting the recording of the recording signal onto the disk (Fig. 4, element 440 and Col. 6, lines 66-67), reproducing the signal writing on the disk before resuming a reproducing/recording operation (Col. 6, line 67-Col. 7, line 1), and detecting the recording properties of the disk based on the reproduced signal (Col. 7, lines 5-12) in order to set the writing

laser power (Col. 5, lines 21-22). Salmonsens further discloses that by reevaluating the quality of a reproduced signal at arbitrary times and places, the laser power is appropriately adjusted to produce a better quality read-back signal (Col. 2, lines 58-62). Salmonsens does not disclose that the recording properties of the disk are detected in order to set the linear speed.

Yen discloses detecting recording properties of the disk based on the reproduced signal in order to set writing speed and writing laser power to respective levels better suited for the recording properties (Col. 2, lines 2-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the recording properties of the disk based on a reproduced signal in the method and apparatus of Salmonsens in order to set the writing speed of Salmonsens (linear speed) as suggested by Yen and in order to set the writing laser power as suggested by Salmonsens, the motivation being to set the linear speed, in addition to the writing laser power, to levels better suited to the recording properties at arbitrary times and places.

In regard to claim 4 and 15, Salmonsens discloses setting the laser power when recording is resumed in accordance with the detected recording properties (Fig. 4, element 455). Therefore, the linear recording speed will also be set when recording is resumed in accordance with the detected recording properties in the method and apparatus of Salmonsens in view of Yen.

In regard to claims 5 and 16, Salmonsens discloses setting laser power when recording is resumed in accordance with the recording properties detected based on the reproduced signal. Therefore, the linear recording speed will also be set when recording is resumed in accordance with the recording properties detected based on the reproduced signal in the method and apparatus and apparatus of Salmonsens in view of Yen. Salmonsens further discloses that no

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adjustments are made until it is determined that adjustments should be made. Therefore, the reproduction will occur at linear speed at the time of interruption of recording.

In regard to claims 6-8 and 17-19, Yen discloses setting the linear speed based upon the predetermined criteria that the detected recording properties fulfill/do not meet (Col. 2, lines 2-16). It is noted that detected recording properties are the number of errors detected in the reproduced signal and the predetermined criteria that are fulfilled or not met are the sets of number ranges corresponding to the number of errors. Therefore, in the method and apparatus of Salmonsens in view of Yen, recording is resumed with a linear recording speed higher than the linear speed at the time of interruption of recording, an unchanged linear recording speed, or a reduced linear recording speed depending on which of the predetermined criteria are fulfilled or not met.

In regard to claim 23, Salmonsens discloses a method for recording/reproducing comprising: temporarily storing a recording signal in a buffer (Fig. 2, element 275 and Col. 4, lines 1-3); controlling the recording of a recording signal onto a disk so that the recording signal is recorded onto the disk at a constant linear speed (Col. 5, lines 39-44); and interrupting the recording of the recording signal onto the disk (Fig. 4, element 440 and Col. 6, lines 66-67), reproducing the signal writing on the disk before resuming a reproducing/recording operation (Col. 6, line 67-Col. 7, line 1), and detecting the recording properties of the disk based on the reproduced signal (Col. 7, lines 5-12) in order to set the writing laser power (Col. 5, lines 21-22); the interrupting of the recording of the recording signal onto the disk being made when a buffer underrun has occurred (Col. 4, lines 3-17). Salmonsens further discloses that by reevaluating the quality of a reproduced signal at arbitrary times and places (including when a buffer underrun occurs), the laser power is appropriately adjusted to produce a better quality read-back signal (Col.

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2, lines 58-62). Salmonsens does not disclose that the recording properties of the disk are detected in order to set the linear speed.

Yen discloses detecting recording properties of the disk based on the reproduced signal in order to set writing speed and writing laser power to respective levels better suited for the recording properties (Col. 2, lines 2-16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to detect the recording properties of the disk based on a reproduced signal in the method and apparatus of Salmonsens in order to set the writing speed of Salmonsens (linear speed) as suggested by Yen and in order to set the writing laser power as suggested by Salmonsens, the motivation being to set the linear speed, in addition to the writing laser power, to levels better suited to the recording conditions at arbitrary times and places. It is noted that interrupting (reevaluating) of the recording of the recording signal onto the disk when buffer underrun has occurred includes making the interruption when a recording position is moved to position in which the recording operation can be performed in a constant higher linear speed state and buffer underrun has occurred because a buffer underrun can occur at recording positions in which the recording operation can be performed in a constant higher linear speed state. See Response to Arguments below for further explanation.

3. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen as applied to claims 5 and 16 above, and further in view of Takeshita (US 6,556,524).

Salmonsens in view of Yen discloses adjusting the linear recording speed and resuming a recording operation, when the detected recording properties indicate that adjustment is needed. Salmonsens in view of Yen does not specifically disclose lowering the linear recording speed and

resuming a recording operation, when the detected recording properties indicate that reproduction is not possible.

Takeshita discloses lowering a recording speed when the detected recording properties indicate that reproduction is not possible (Fig. 3, elements S24-S26). The recording speed is lowered to a speed that may produce recordings having detected recording properties of acceptable quality for reproduction (Fig. 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to lower the linear recording speed and resume a recording operation in the method and apparatus of Salmonsens in view of Yen when the detected recording properties indicate that reproduction is not possible as suggested by Takeshita, the motivation being to adjust the linear recording speed to a speed at which the recorded signal may be able to be reproduced when it has been determined that the quality of the reproduced signal is unacceptable for reproduction.

4. Claims 10, 11, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Salmonsens in view of Yen as applied to claims 3 and 14 above, and further in view of Takeshita.

In regard to claims 10 and 21, Salmonsens discloses comparing recording property data detected at a previous point with current recording property data to detect the recording properties (Col. 6, lines 12-18). Salmonsens does not disclose that the previous point at which recording property data is detected is a point of change of linear recording speed. The previous point at which recording property data is detected is instead during an optimum power control (OPC) process (Col. 6, lines 16-18).

Takeshita discloses performing an OPC while also changing the recording speed (Abstract) to determine an optimum recording speed in which read errors during reproduction are minimized (Col. 6, lines 21-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to perform an OPC in the method and apparatus of Salmonsens in view of Yen while changing the recording speed as suggested by Takeshita, the motivation being to additionally determine an optimum recording speed during the OPC process of Salmonsens. It is noted that when changing the recording speed is added to the method and apparatus of Salmonsens in view of Yen, previous point at which recording property data is detected becomes a point of change of linear recording speed.

In regard to claims 11 and 22, Salmonsens discloses that writing laser power for resumption of recording is set based on a difference between the recording property data previously detected and the current recording property data (Col. 6, lines 16-20). Therefore, in the method and apparatus of Salmonsens in view of Yen and further in view of Takeshita, the writing laser power and the linear recording speed for resumption are set based on a difference between the recording property data detected at the previous change time of the linear recording speed and the current recording property data.

Response to Arguments

5. Applicant's arguments filed October 21, 2004 with respect to prior art claim rejections have been fully considered but they are not persuasive. Applicant argues that none of the reference disclose or suggest the concept of detecting the recording properties of the disk when the operation for changing the recording speed is performed. Even though claims 3 and 23 and therefore 4-11

are the only claims to include a limitation similar to the concept described above, this argument will be interpreted to be in regard to all of the prior art rejected claims. Otherwise, Applicant's arguments with respect to claims 12-22 would fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

In regard to Applicant's arguments with respect to claims 12-22, it is noted that the concept upon which applicant relies is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In regard to Applicant's arguments with respect to claims 3-11, Applicant argues that the limitation specifying that the interrupting of the recording of the recording signal onto the disk is made when a recording position is moved to position in which the recording operation can be performed in a constant higher linear speed state and changing the recording speed patentably distinguishes claim 3 over the cited references. However, Salmonsens in view of Yen interrupts recording at any point during recording including arbitrary times and places and detects recording properties of the disk based on the reproduced signal in order to set the write speed (constant linear velocity in the method of Salmonsens (Col. 5, lines 39-44)) and writing laser power to respective levels best suited for the recording properties (see rejection of claim 3 above; Col. 2, lines 50-62 of Salmonsens; and Col. 2, lines 2-16 of Yen). Yen determines the writing speed (constant linear speed in Salmonsens in view of Yen) state best suited for the position of the recording position corresponds to the range in which the error-count (recording property) falls (Col. 2, lines 2-16) and if the writing speed can be a higher write speed state, the write speed is changed to the higher write speed state. Therefore, in the method of Salmonsens in view of Yen, if

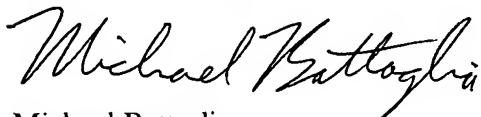
the writing speed can be a constant higher linear speed state as determined by Yen, the write speed is changed to the constant higher linear speed state and the any point during recording including arbitrary times and places at which recording is interrupted includes a recording positions in which the recording operation can be performed in a constant higher linear speed state.

In regard to Applicant's arguments with respect to claim 23, Applicant argues that the limitation specifying that the interrupting of the recording of the recording signal onto the disk is made when a recording position is moved to position in which the recording operation can be performed in a constant higher linear speed state and buffer underrun has occurred patentably distinguishes claim 23 over the cited references. However, Salmonsens in view of Yen interrupts the recording of the recording signal onto the disk being made when a buffer underrun has occurred (see Col. 4, lines 3-17 of Salmonsens). It is noted that buffer underruns can occur at recording positions in which the recording operation can be performed in a constant higher linear speed state. After interruption of the recording when buffer underrun has occurred, Salmonsens in view of Yen determines the writing speed (constant linear speed in Salmonsens in view of Yen) state best suited for the position of the recording position corresponds to the range in which the error-count (recording property) falls (Col. 2, lines 2-16 of Yen) and if the writing speed can be a higher write speed state, the write speed is changed to the higher write speed state. Therefore, in the method of Salmonsens in view of Yen, interrupting of the recording of the recording signal onto the disk is made when a recording position is moved to position in which the recording operation can be performed in a constant higher linear speed state and buffer underrun has occurred.

Conclusion

6. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197.


Michael Battaglia


BRIAN E. MILLER
PRIMARY EXAMINER